

## A STUDY ON GENUS *AGIOMMATUS* (HYMENOPTERA: PTEROMALIDAE) FROM CHINA, WITH DESCRIPTION OF ONE NEW SPECIES<sup>1,2</sup>

Xiao Hui, Huang Da-Wei<sup>3</sup>

ABSTRACT: The two Chinese species of *Agiommatus* are treated and keyed. *A. pantanus* n. sp. is described from the south of China. *Agiommatus jiahuanae* is synonymized with *A. erionotus*. Both Chinese *Agiommatus* species were reared from the eggs of Lepidoptera.

*Agiommatus* has been placed in Pteromalinae (Pteromalidae) since its description by Crawford in 1911. *Agiommatus* can be easily recognized within the Pteromalinae by the following characters: head with inner eye orbits converging upwards (fig. 1); eye large, eye height 1.2-1.7 times frons width; female with 3 anelli; mesopleuron ventrally with distinct transverse carina separating from mid coxae. Some species of Cleonyminae (Pteromalidae) have converging inner eye orbits, but they can be easily separated from *Agiommatus* by the following characters: antenna with 1 anellus; thoracic dorsum with dense setiferous punctures, notauli complete, pronotum usually large and subconical, collar not delimited by an edge.

Eight valid species of *Agiommatus* are now known. They are distributed mainly in the Oriental region (Noyes, 1998). In this paper we describe a new species, *A. pantanus* Xiao and Huang, from the Oriental part of China and synonymize *A. jiahuanae* Yang 1992 with *A. erionotus* Huang 1986, n. syn. The four remaining Oriental *Agiommatus* species include *A. attaci* Ferrière, *A. geethae* Sureshan & Narendran, *A. paria* (Motschulsky) and *A. sumatraensis* Crawford. *A. viridis* (Girault) is known from Australia and *A. bekiliensis* (Risbec) was recorded from African Region.

### *Agiommatus* Crawford, 1911

*Agiommatus* Crawford, 1911:278. Type-species: *A. sumatraensis* Crawford; by original designation. Huang, 1993:182-184.

*Pterosemella* Girault, 1913:317. Type-species: *P. viridis* Girault; by original designation. Synonymized with *Agiommatus* by Bouček, 1976: 18.

*Polycystella* Girault, 1913:325. Type-species: *P. fasciiventris* Girault; by original designation. Synonymized with *Agiommatus* by Bouček, 1988: 458.

<sup>1</sup> Received Januray 31, 2000. Accepted August 27, 2000.

<sup>2</sup> Supported partly by NNSFC (No. 39900014) and Young Scientist Grants of CAS (C2999081).

<sup>3</sup> Institute of Zoology, Chinese Academy of Sciences, Beijing 100080; To whom correspondence and reprint requests should be addressed.

**Generic diagnosis:** Body metallic green; head distinctly wider than mesoscutum; inner orbits converging upwards; clypeal margin produced and deeply emarginate in the middle; antenna shorter than head width, 13-segmented, formula 11353; occiput not margined; thorax convex, notauli incomplete; propodeum with complete median carina and plica, nucha distinct; fore wing densely hairy outside speculum; gaster on distinct petiole, gaster narrower than head and thorax.

**Biology:** *Agiommat* species are parasites of the eggs of various large Lepidoptera including *Acherontia styx* (Westwood) (Sphingidae), *Opodiphthera astrophel* (Walker) (= *Antheraea simplex*) and *Attacus atlas* (L.) (Saturniidae), *Erionota thrax* (L.) (Hesperiidae), *Pantana* sp. (Lymantriidae), *Spodoptera litura* (F.) (Noctuidae), and *Mimathyma chevana* (Moore) (Nymphalidae) (Bouček 1988, Bouček et al. 1979, Huang 1986, Thomson 1958, and Yang, 1992).

**Distribution:** South and north of China, India, Indonesia, Malaysia, Australia, Madagascar.

### Key To Female Species of *Agiommat* from China

1. Clypeal margin deeply excided in the middle (fig. 1), with two sharp teeth; head width about 1.1-1.17x as long as height; scapula and frenal area smooth or with very shallow reticulation (fig. 2, 3); marginal vein about 2.4 times as long as stigmal vein (fig. 4); ..... *Agiommat pantanus* n. sp.  
Clypeal margin shallowly emarginate (fig.5), without distinct sharp tooth; head width about 1.25-1.3x as long as height; scapula and frenal area densely reticulate (fig. 6); marginal vein about 3 times as long as stigmal vein; ..... *Agiommat erionotus* Huang

### *Agiommat pantanus* Xiao and Huang, NEW SPECIES

Figs. 1-4

**Description. Holotype Female:** Length 2 mm. Head and mesosoma metallic dark green, gaster brown; antenna dark yellow; leg yellowish except coxa pale brown. **Head** large, wider than high (1.17x) in front view (fig. 1); eye height 3.2x malar space; clypeal margin slightly produced, deeply emarginate in the middle, distance between two teeth as long as tooth length. In dorsal view, eye length 5x temple, POL 2.5x OOL. Antennal insertion at middle of face; antenna short, nearly 0.57x head width, scape 0.5x eye height, each anellus transverse, first funicular segment slightly longer than broad, other funicular segments square, clava slightly longer than last two funicular segments combined. **Thorax** (fig. 2) compact and convex; pronotum with indistinct margin, collar length medially about 0.13x mesoscutum length, mid lobe and frontal part of scutellum (in front of frenal line) distinctly reticulate; scapula, axilla and frenal area smooth or with shallow reticulation; scutellum length 1.26x mesoscutum, 1.5x propodeum length; propodeum (fig. 3) with median carina, plica and cross carina. Fore wing (fig. 4) with upper surface of costal cell bare, basal cell bare, basal vein with 5 hairs; marginal vein longer than postmarginal vein and stigmal vein, marginal vein 1.58x postmarginal vein, and 2.4x stigmal. **Gaster** with petiole 2x as long as wide, and with one little seta on each side; gaster length 2.9x width, slightly shorter than thorax. **Male:** Length 1.6-1.7 mm. Gaster triangle and a yellow ribbon on the middle; antenna longer than that of female, 0.75x length of head width; gaster length 1.5-1.6x width, distinctly shorter than thorax (0.8x length of thorax).

**Variation.** Body length of females examined varied from 1.8 to 2.0 mm; the metallic body color varies from dark green to bluish green. The ratio of head width to height for 12 measured females varied from 1.1 to 1.17. The ratio of gaster length to width for 12 measured females varied from 2.8 to 2.93.

**Diagnosis.** This species resembles *A. erionotus* Huang and can be separated from it by the key above. This species differs from *A. geethae* Sureshan & Narendran by the combination of the following characters: the clypeal margin deeply excided in the middle (in *geethae*, emarginated); head width 1.1-1.17x as long as height (in *geethae*, head width 1.3x height); antennal insertion at middle of face (in *geethae*, antennal insertion below middle of face); scapula and frenal area smooth or with very shallow reticulation (in *geethae*, with finer reticulation). *A. erionotus* Huang differs from *A. geethae* Sureshan & Narendran at least by the following characters: antennal insertion at middle of face; more transverse head in front view.

**Specimens Examined. Holotype:** CHINA: ♀ Longyanshi Suangche (25.1°N, 117.0°E), FUJIAN, Sep.13.1996, ex. *Pantana* sp., Coll. Xiao Hui. Paratypes: 13♀ 4♂. Same date as holotype. The type specimens are deposited in Institute of Zoology, the Chinese Academy of Sciences.

**Distribution.** This species is currently known only from Fujian, southern China.

**Biological and collection information.** All specimens were reared on 17 September 1996 from eggs of *Pantana* sp. (Lepidoptera: Lymantriidae), which were collected on the under surface of leaves of bamboo on 13 September 1996 in Fujian, China.

**Etymology.** This species is named from the host, *Pantana* sp.

### *Agiommatus erionotus* Huang

Figs. 5-6

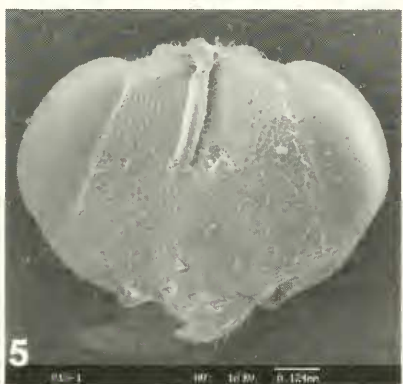
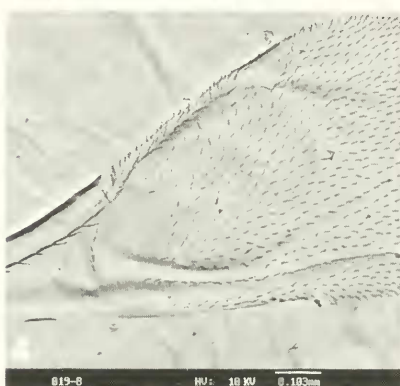
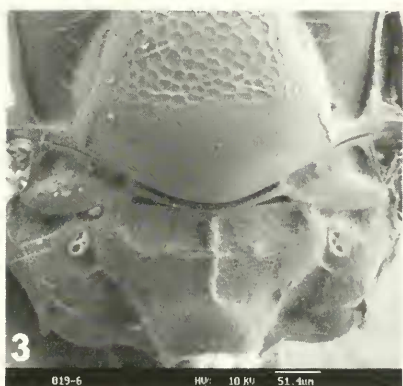
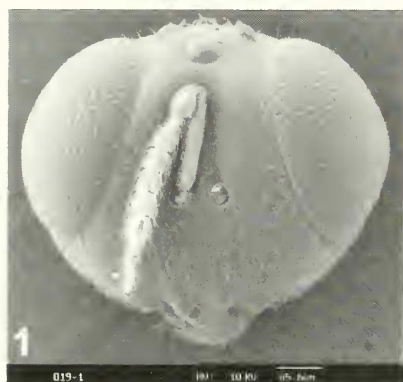
*Agiommatus erionotus* Huang, 1986:103-105.

*Agiommatus jiahuanai* Yang, 1992: 72-75. NEW SYNONYMY.

*Agiommatus erionotus* Huang, 1993:182-184.

**Diagnosis.** Body length 2-2.2 mm. Clypeal margin shallowly emarginate (fig.5); head width 1.25-1.3x as long as height; first funicular segment 1.5 times as broad as long, F2 to F5 about quadrate respectively; clava about as long as the last three funicular segments combined; thorax with dense reticulation (fig. 6); marginal vein 3 times as long as stigmal vein; basal cell bare, basal vein complete; both sides of petiole without a small spine.

This species differs from *A. pantanus* n. sp. by the characters given in the key. *A. attaci* Ferrière is closely related to *A. erionotus* Huang, from which it differs in its F1 two times as long as broad, basal cell setose, body size 3-3.5mm (Specimen examined: Paraleototype ♀, MALAYA: Kuala, 16.April 1925, ex. eggs of *Attacus atlas* L., coll. G. H. Corbett., det. Ferrière).



Figs. 1-6. 1-4. *Agiommatius pantanas* sp. n. ♀: 1. head in front view; 2. thorax in dorsal view; 3. propodeum in dorsal view; 4. fore wing. 5-6. *Aggiommatius erionotus* Huang ♀: 5. head in front view; 6. thorax in dorsal view.

**Specimens Examined. Holotype and Paratypes:** CHINA: 14♀ 4♂ Jinshan, Fuzhou, FUJIAN, Oct. 23.1986, ex. *Erionota thrax* L., Coll. Huang Jian-hua. **Other specimens:** 1♀ Yangjiang, GUANGDONG, Sep. 1980, ex. *Dasychira axutha* Collenette, Coll. Su Xing; 4♀ GUANGXI, May, 1974, ex. *Dendrolimus* sp., Coll. Wei Lin; 4♀ Anning, YUNNAN, Aug. 1980, Coll. Li Chang-Fang. All the examined specimens are deposited in Institute of Zoology, the Chinese Academy of Sciences.

**Distribution.** This species is currently known from southern China: Fujian, Guangdong, Guangxi, Yunnan.

**Biological and collection information.** Reared from eggs of *Erionota thrax* L. (Hesperiidae) (Huang, 1986), *Dasychira axutha* Collenette (Lymantriidae), *Dendrolimus* sp. (Lasiocampidae) (Huang, 1993) and *Mimathyma chevana* (Moore) (Nymphalidae) (Yang, 1992).

#### ACKNOWLEDGMENTS

Thanks are due especially to Zdenek Bouček (British Natural History Museum) for kindly providing specimen of *Agiommatus*, to Yang Zhong-Qi for loaning specimens, and to Wang Lin-Yao for identifying the host.

#### LITERATURE CITED

- Bouček, Z.** 1976. African Pteromalidae (Hymenoptera); new taxa synonymies and combinations. J. Entomol. Soc. Sou. Afri. 39(1): 9-31.
- Bouček, Z.** 1988. Australasian Chalcidoidea (Hymenoptera) - A biosystematic revision of genera of fourteen families, with a reclassification of species. C.A.B. International, Wallingford, 831pp.
- Crawford, J. C.** 1911. Descriptions of new Hymenoptera 3. Proc. U. S. Natl. Mus., 41: 267-282.
- Huang, D. W.** 1986. *Agiommatus erionotus* a new species of Miscogasterinae (Hymenoptera: Chalcidoidea, Pteromalidae). Wuyi Science Jour. 6: 103-105.
- Huang, D. W.** 1993. Economic Insect Fauna of China, Hymenoptera: Pteromalidae (1). 196pp. Beijing.
- Girault, A. A.** 1913. Australian Hymenoptera Chalcidoidea - VI. The family Pteromalidae with descriptions of new genera and species. Mem. Qd. Mus., 2: 317.
- Sureshan, P.M.; Narendran, T.C.** 1996. A new species of *Agiommatus* Crawford (Hymenoptera: Pteromalidae) - an egg parasite of a cutworm on mulberry in Bangalore (Karnataka). J. Bombay Natu. Hist. Soci. 93:59-61.
- Yang, Z. X.** 1992. Discovery of the genus *Agiommatus* (Hymenoptera: Chalcidoidea, Pteromalidae) from south China with description on a new species. Entomotaxonomia. 14(1): 72-76.